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ANALYSIS OF ABLE AND DISABLED SIXTH-GRADE READERS' KNOWLEDGE OF STORY STRUCTURE: A COMPARISON

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Current research indicates that reading is a transactive process, suggesting that the background knowledge a reader brings to a text is at least as important as the text itself in determining comprehension (Goodman, 1984). Of particular interest here is the reader's tacit knowledge of typical organizational patterns which govern the structure of narrative texts, or what has been termed story schemata (Rumelhart, 1975, 1980).

The findings of several studies suggest that the acquisition of story schemata is developmental (Applebee, 1978; Botvin & Sutton-Smith, 1977; Leondar, 1977; Mandler, 1982; McConaughy, 1982; Stein, 1982). As children listen to stories told and read aloud, they begin to acquire a sense of story structure. Later, they apply this knowledge in making predictions and generating hypotheses while reading. It is in this way that a knowledge of story structure



aids youngsters in the comprehension of narrative discourse. Children's story schemata also provide them with a framework for categorizing the events which occur in stories, thereby enhancing their ability to recall what they have read (Mandler & Johnson, 1977; Stein, 1978; Thorndyke, 1977; Whaley & Spiegel, 1982).

To date, the samples of most studies aimed at exploring children's sense of story have been limited to the average or above average reader. As a result, little is known about the extent to which able and disabled readers' understanding of story structure compare. Should significant differences exist between these two groups, they would have important implications for pedagogical practice. The primary purpose of the present investigation was, therefore, to examine more thoroughly able and disabled readers' knowledge of story structure. The three specific questions which served to guide this research effort follow:

1. Do able and disabled readers vary in their ability to predict story outcomes?
2. Are there differences between able and disabled readers' knowledge of story structure as evidenced by their ability to retell stories?
3. What, if any, differences exist between able and disabled readers' ability to tell stories?

By employing all three of the procedures which have in the past been used to assess students' knowledge of story structure--story tellings, story predictions, and story retellings--the researchers also sought to determine whether these assessment techniques were comparable.

Method

Sample

The sample for this study was comprised of 46 (30 male, 16 female) sixth-grade pupils enrolled in a public middle school located in a predominantly white, middle-class suburb of Cleveland, Ohio. Participation was voluntary and subject to parents' willingness to grant permission for their children to participate.

Students ranged in age from 11 years 5 months to 13 years 8 months. All students had previously been identified by the school system as able or disabled readers on the basis of their scores on the reading subtest of

the Iowa Test of Basic Skills. Students scoring at or below the 33rd percentile on this standardized test of reading achievement were designated as disabled readers; students scoring above the 33rd percentile were classified as able readers. The 23 disabled and 23 able readers were matched on sex. The researchers deemed it necessary to control for this variable since innumerable studies have shown that reading disabilities are "from three to ten times more common for boys, depending on how the disability is defined and what population is studied (Maccoby & Jacklin, 1966, p. 119).

Instrumentation and Procedures

Each student met with the principal investigator or a trained assistant for two 15 minute sessions. During the first session, students listened to "The Tiger's Whisker" and were then asked to retell this story. The text of the story is reproduced below. The 14 propositions into which the story was divided for scoring purposes are also designated.

1.) Once there was a woman who lived with her husband in the woods. 2.) One day, her husband became very sick. 3.) The woman was upset by her husband's illness (4.) and wanted him to get well. 5.) She tried everything she could think of (6) but nothing worked. 7.) At last she remembered that medicine made from a tiger's whisker would help him get well. 8.) So the woman set out to get a tiger's whisker. 9.) She went to a tiger's cave and put some food in front of the opening to the cave and sang soft music. 10.) The tiger came out, ate the food, and thanked the woman for the food and music. 11.) The woman quickly cut off one of his whiskers (12.) and ran home. (13.) The tiger was lonely and sad (14.) but the woman's husband became well.

After they completed their retellings of "The Tiger's Whisker," students were instructed to listen to the first half of another story. The entire text of "The Dog and His Shadow" follows:

Once there was a big brown dog named Sam. One day, Sam found a piece of meat and was carrying it home in his mouth to eat. Now on his way home, he had to cross a brook. He looked down and saw his own shadow reflected in the water beneath. He thought it was another dog with another piece

of meat, and he made up his mind to have that piece also. (Researcher stops reading here.) So he made a snap at the shadow, but as he opened his mouth, the piece of meat fell out. The meat dropped into the water and floated away. Sam never saw the meat again.

When they finished listening to the first half of "The Dog and His Shadow," the children were asked to predict how this story might end. This concluded the first session with each student.

The second session was devoted to story telling. At this time, children were asked to tell a story of their own invention. All tellings, retellings, and predictions were tape recorded and later transcribed for scoring.

Scoring and Data Analyses

Story retellings. Students' retellings of "The Tiger's Whisker" were scored according the number of propositions recalled. Resultant data were then subjected to formal test by means of a 2 x 2 fixed-effects analysis of variance, with sex and reading ability functioning as the variables of principal interest. The classical experimental design approach was employed to correct for the unequal but proportional number of observations per cell when performing this analysis (Kennedy, 1978, pp. 287-300).

Story predictions Students' story predictions were classified as being either congruent or incongruent with that portion of "The Dog and His Shadow" read aloud. To illustrate, an example of both an incongruent and a congruent response follow:

Incongruent prediction: The dog ate the meat and went home.

Congruent prediction: Sam jumped into the water and found he could not get the meat. Came back out. He could not get the meat because he was his shadow and he felt pretty stupid. He got all wet and made a fool of himself and he never did it again.

To determine if able and disabled readers' ability to predict story outcomes varied, a chi-square analysis was performed.

Story tellings. Children's stories were sorted into their component action sequences and scored according to the

level of structural complexity they exhibited. Two categories were devised for this purpose: (a) student failed to tell a story or story told was unelaborated, and (b) student told an elaborated story.

Stories which lacked structure or were comprised of one or more undeveloped episodes were categorized as unelaborated stories.

EXAMPLE: My story is about this man that always used to steal from people. If they'd tell him, he'd bring it back. He take it and fix it and then he'd steal it. He did this for a long time. Then once he tried to steal it from this other guy. This other guy caught him. Then that's the end.

Stories which were comprised of one or more well developed episodes were categorized as elaborated stories. Occasionally, these stories contained one or more subplots.

EXAMPLE: Once there was a little boy. He liked nature and he liked going on walks in the woods. One day he started out in the afternoon and by the time he wanted to turn back, it was dark. So he was lost. So he slept in the woods and the next day when he woke up, he saw that these little animals were surrounding him. The little animals told him to come to their homes and when he got there they gave him food and other presents that he could use. They also told him that they had a problem. There was this bad monster--big animal--that always bothers them. They always have problems with him. They asked the little boy, whose name was Sam, to help them--not kill, but turn the evil to good. So the little animals and Sam started out to find the beast. When they found him, he was sleeping. They put a blanket over him and by the time he woke up, he was in a bag. They took him back to their homes. They talked to him and tried to make him good. He said he'd think it over. The next day when he came back, he said he realized what he was doing and that he'd like to live with the little animals and help them. The little boy asked in return for their help, if any of the animals knew the way home--to his house. The beast knew the way home. So he took the little boy home. Everybody was happy.

To determine what, if any, differences existed between these able and disabled readers' story tellings, data were

subjected to test by means of a chi-square analysis. Yates' correction for continuity was employed to compensate for small expected cell frequencies.

Results

Story Retellings

Means and standard deviations based on students' retelling scores are contained in Table 1. Examination of this table suggested that the mean number of propositions recalled by girls was not markedly different than the mean number of propositions recalled by boys. Reading ability did, however, appear to have an effect on students' ability to retell "The Tiger's Whisker".

Table 1
Means and Standard Deviations
of Students' Story Retelling Scores
by Sex and Reading Ability

Ability	Male		Female	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Able Readers	8.60	1.97	8.63	1.41
Disabled Readers	6.47	2.92	6.88	1.55

The 2 x 2 analysis of variance performed on story retelling data confirmed the observation that the main effect for reading ability was significant, $F(1, 42) = 9.74$, $p < .005$. While none of the other effects proved to be statistically significant, results of this analysis do support the hypothesis that disabled readers' sense of story structure is not as well-developed as that of able readers.

Story Predictions

The chi-square test performed on students' story prediction scores also achieved significance, $\chi^2 = 5.58$, $p < .005$. Specifically, the results of this analysis indicated that disabled readers were prone to give more incongruent responses than able readers. In fact, 47 percent of the disabled readers made predictions that were incongruent in some respect with the story, "The Dog and His Shadow." By comparison,

only 4.3 percent of the able readers gave an incongruent response.

Story Tellings

The chi-square test performed on students' story telling scores yielded significant results, $\chi^2 = 6.33$, $p = .01$. Again, able readers outperformed their disabled counterparts. Six of the disabled readers (26 percent) failed to tell a story, while all of the able readers were willing to do so. In addition, disabled readers were more inclined to tell unelaborated stories.

Discussion

The results here confirmed the hypothesis that able readers have a more well-rounded sense of story structure than disabled readers. Specifically, it was found that able readers demonstrated an ability to tell more elaborated stories than disabled readers. They were able to recall a significantly greater number of propositions when asked to retell a story; and their story predictions were prone to be more congruent with a text they heard read aloud, than were the predictions of their disabled counterparts. Assuming that instructional strategies aimed at enhancing disabled readers' knowledge of story structure will result in concomitant increases in comprehension, the findings of the present study have some important implications for pedagogical practice. For example, the results of this study suggest that disabled readers of all ages might benefit from hearing their teachers read stories aloud on a daily basis. Classroom read-aloud time is especially important for those students whose home reading experiences are limited. Highly predictable stories, books with refrains, and repetitive or cumulative tales should be given priority with selecting materials for this purpose.

Furthermore, teachers should encourage disabled students to retell stories they have heard and read. As Goodman (1982) points out, story retelling allows readers an additional opportunity to rehearse stories and to integrate and modify them. This enhances comprehension and promotes the development of story schemata. "Retellings can be done individually or in small groups, either orally or in written form" (Goodman, 1982, p. 306).

Whenever possible, teachers should employ predictive

questioning techniques when discussing stories. These techniques should help disabled readers develop a sense of story structure while at the same time contributing to their language development. Stauffer's (1980) directed listening-thinking activity and his directed reading-activity are two such predictive questioning procedures.

If, as Applebee (1980) speculates, the writing of stories can aid in the development of story schemata, disabled readers should frequently be asked to tell and write stories of their own invention. The language experience approach to beginning reading instruction might be employed for this purpose.

Finally, since the findings based on students' story tellings, story predictions, and story retellings were similar, it appears as though these three techniques for assessing students' tacit knowledge of story structure are comparable.

Continued study of disabled readers' knowledge of story structure will undoubtedly be of benefit in two ways. First, it promises to increase our understanding of the relationship which exists between sense of story structure and reading comprehension. Second, it will increase our understanding of how this relationship affects the learning and teaching of reading and, as a result, help us to improve both.

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